

What is claimed is:

1. A quartz crystal microbalance sensor using molecularly imprinted polymers comprising:

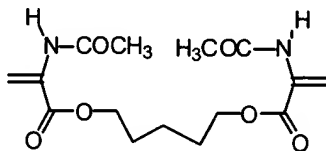
a quartz crystal microbalance sensor having a surface;

5 a matrix of synthesized monomers coating said surface; and

a multifunctional monomer for use as an adhesive;

wherein said multifunctional monomer adheres the polymerized matrix to said surface of said sensor, and said matrix is a molecularly imprinted polymer.

10 2. The sensor as claimed in claim 1, wherein said multifunctional monomer is bis(dehydroalanine) comprising the formula:



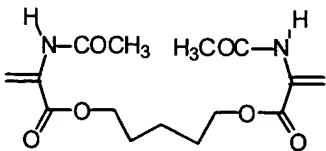
3. The sensor as claimed in claim 1, wherein said synthesized monomers comprise acrylic monomers having aromatic linkers.

15 4. A quartz crystal microbalance sensor using molecularly imprinted polymers comprising:

a quartz crystal microbalance sensor having a surface;

a matrix of acrylic monomers polymerized to coat said surface of said quartz microbalance sensor; and

a multifunctional monomer comprising bis(dehydroalanine) of the structure



wherein said bis(dehydroalanine) adheres said polymerized matrix to said surface of said sensor, and wherein said matrix is molecularly imprinted.

5. An apparatus for detecting at least one contaminant in a solution, said apparatus comprising:

5 a conduit;

a molecularly imprinted polymer to attract said contaminant, said molecularly imprinted polymer disposed within said conduit; and

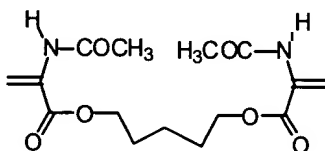
a quartz crystal microbalance sensor for sensing said contaminant attracted by said molecularly imprinted polymer;

10 wherein said sensor sends a signal indicating said contaminant is present in said solution.

6. The apparatus as claimed in claim 5 further comprising a microprocessor in communication with said sensor, said microprocessor being programmed to process said signal and determine the presence of said contaminant based upon the processed signal.

15 7. The apparatus as claimed in claim 5 further comprising a multifunctional monomer for use as an adhesive, wherein said multifunctional monomer adheres said molecularly imprinted polymer to said sensor.

8. The apparatus as claimed in claim 7, wherein said multifunctional monomer further comprises the structure:



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9. The apparatus as claimed in claim 8 wherein said molecularly imprinted polymer is programmed to attract a contaminant selected from the group consisting of hexachlorobenzene, cyclohexane, chlorobenzene, benzene, and anisole.

10. The apparatus as claimed in claim 8 wherein said molecularly imprinted polymer is programmed to attract a contaminant selected from the group consisting of hexachlorobenzene, cyclohexane, chlorobenzene, benzene, and anisole.